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ORIGINAL COMMUNICATIONS.

Observations on Gun-Shot Wounds. By W. Poyntell Johnston, M. D.

In the case of gun-shot wound last presented, (see No. 1,) I wished chiefly to direct attention to the gravity of the prognosis, in a wound which could scarcely have failed to injure the brachial artery, which certainly interested the pleura and peritoneum, the lungs, liver, and diaphragm, and in which, from the symptoms, there existed a reasonable apprehension that even the stomach had not escaped. The patient promptly recovered, and the progress of cure was unaccompanied by any very severe symptoms; inflammation of the different organs interested supervened, as was anticipated, but *almost without pain*; a fistulous communication was established between the liver and lung, producing a copious expectoration of bile, which spontaneously closed, and the patient was discharged, perfectly cured, with the exception of the paralysis of the radial nerve, which was, of course, irremediable.

The remaining cases are presented in a much more condensed form, those points only being noted which are peculiar in each case, or which offer a contrast with the first.

Case II.—*Gun-shot wound of Forearm—favourable prognosis—profuse suppuration—purulent resorption—pneumonic expectoration—typhoid symptoms—sudamina—expectoration of the matter of metastatic abscesses—expectoration of gangrenous matter—death. Autopsy—metastatic abscess of lungs with circumscribed gangrene—decomposition of the blood—injection, with apparent false membrane of the cardiac extremity of the aorta*—NO INFLAMMATION *of the veins of the arm, which contain* NO PUS.

John Johnson, æt. 28, not intemperate, was gunning in a boat on the 6th September, 1835. On leaving the boat, his fowling piece, which was directed towards him, rolled to one side; in order to arrest it, he seized the barrel with his right hand in such a manner that the muzzle was in contact with the anterior part of the forearm, when it exploded, and the entire load, passing upwards and backwards, traversed the forearm, and escaped below the olecranon process; he did not fall; complained of considerable pain, and lost very little blood. He was carried three miles in the boat to his residence, where simple rags were applied to the wound, and, eighteen hours after the accident, was ad-

mitted into the Pennsylvania Hospital. For the two following days the treatment consisted in the application of poultices to the wound, which was extremely painful, and in low diet.

On the fourth day I entered as acting house surgeon, and saw him for the first time. The following was his actual state. Face flushed, (his wife attributes this to the action of the sun on a naturally florid complexion;) he slept well during the night, and complains of no uneasiness except in the wound, the pain of which has been augmenting since the accident; pulse at the wrist almost as well marked as in the opposite member, rather full, eighty; tongue natural; appetite diminished; abdomen indolent; bowels free; intellect unimpaired: thorax well developed; has never had cough, or pain in the chest; respiration healthy throughout, (carefully examined by Dr. Gerhard.) Half way between the wrist and elbow, opposite the anterior surface of the ulna, exists a wound of the size of a half dollar, with ragged and whitish edges, filled with a greenish black slough, which rises to a level with the surrounding skin; the upper edge of this wound is elevated, while that towards the wrist is depressed. On the posterior face of the forearm, just beneath the olecranon, is seen a crescent-shaped laceration, of which the concavity is turned towards the radius; it is about four inches in length, the edges are separated, are very ragged, and the whole of the interior is covered by a greenish black slough, similar to that already mentioned; at the bottom and to the inside of this wound the ulna is exposed for about an inch; the surface is smooth, and appears to have served as a director for the escape of the load; the anterior part of the forearm is swollen, but the skin is not tender; the arm above the elbow is reddish posteriorly, and anteriorly presents various shades of green and yellow.

The prognosis, in regard to *the life* of the patient, was decidedly favourable: a young, temperate, healthy, and robust man, had received a gun-shot wound of the forearm, involving no important parts; the articulation was apparently uninjured; the bones were not fractured; the arteries had escaped; and, on the fourth day after the reception of the injury, the general health was unimpaired, the arm but moderately swollen, the pulse on the injured side distinct, and only at eighty; in a word, the only uneasiness experienced was the pain caused by a lesion of some of the filaments of the brachial plexus.

Had the olecranon process been injured, and the cavity of the elbow-joint exposed, it is a question whether a prognosis founded upon probabilities, would not still have been in the patient's favour. The following is a case in point:

—— Bertier, æt. 45, formerly a soldier in the army of Napoleon, received, in 1813, a gun-shot wound, similar to the above, involving, however, the olecranon; from that period a fistula remained at the posterior part of the elbow joint, which at intervals became swelled and painful; he nevertheless continued his work, as ditcher, up to the commencement of 1833. At this period, twenty years after the injury, the swelling increased, and the severe pain prevented the motions of the joint. He entered the hospital, St. Louis, April 12, 1833, and

came under my charge as *Externe*. The elbow was slightly swelled, the motions painful; the disease was regarded as a white swelling, and amputation was performed the 16th. Death took place on the 29th, from purulent resorption with metastatic abscesses of the liver.

This short abstract is here introduced with a view of exhibiting upon what reasonable grounds a favourable prognosis was formed in the case under consideration. After twenty years of hard labour, Bertier died of the amputation, not of the gun-shot wound.

This case will again be referred to in elucidation of another point.

But to return to the case of Johnson. On the 6th day the arm became more swelled, and at half-past nine he was seized with a *very severe chill*, which lasted half an hour, and was immediately succeeded by profuse perspiration. (Eighty leeches to arm; cold poultices.)

On the 7th day the arm, which was twice the size of the opposite member, offered an erysipelatous tint, which gradually disappeared under cold applications; the strength of the patient decreased.

On the 10th day there had been no return of the chill, but the patient suffered from continued and profuse perspiration; the whole of the right arm, the chest, and the abdomen were covered with sudamina; the countenance anxious; the wounds granulating; the prostration marked. (Poultices to wounds. Porter, eggs, and milk for diet.)

The sudamina and sweats continued till the 16th day, with increasing feebleness, when they were replaced by a diarrhœa, which was checked by opium injections. The strength and appetite improved, but the suppuration became very profuse.

On the 21st day, on removing the dressings, the arm was found floating in the profuse discharge from the wound in the elbow. On pressing the forearm along the track made by the load, a large quantity of thick pus was evacuated, and, on pressing the inside of the arm, about half a pint more of fluid pus escaped from an abscess which was situated beneath the brachial aponeurosis; finally, on making compression over the external condyle, a small quantity of serous fluid oozed from the wound near the elbow. General health much improved; no sudamina; little pain. Pulsations of radial artery distinct, although the hand was very œdematous. The patient was not emaciated; the countenance was coloured, and free from anxiety; no return of chill; respiration easy; no no cough, or pain in the chest; the patient felt stronger than since his entrance.

(Generous diet, port wine, bandage of Scultetus.)

He continued improving in strength and general health until the 23d day, when, at 10 A. M., he was again seized with a *violent chill*, which lasted a quarter of an hour, and was followed instantaneously by a profuse perspiration, which lasted till night.

On the following day (the 24th since the accident) the countenance was anxious; the speech hesitating, as he thought from weakness; the wounds more animated; *the discharge not diminished*, free from odour. General health as before, with the exception of feebleness. (The whole limb was enveloped in a bandage drawn tolerably tight, leaving the wounds exposed, to which poultices were continued.) He sweated profusedly during the whole night, and on the morning

the 25th day. The mattrass, pillows, blankets, &c., were completely soaked. A vapour arose from his body, when uncovered, which was very perceptible at some distance. The pulse was full, not accelerated. The countenance red, not emaciated; the discharge undiminished in amount and unaltered in quality. No diarrhœa. Respiration easy. Auscultation over the anterior portion of the chest revealed no alteration. (Wine; bitter tea.) The suppuration continued profuse and free from odour on the following day, and the wounds were filled with bright red granulation. On the reapplication of the bandage there was a gush of about six ounces of arterial blood from the wound near the elbow; the bandage was immediately removed, but the hæmorrhage had ceased; the pulsations of the radial artery were as distinct as before. A tourniquet was loosely applied; poultices to the wounds; and the bandage was omitted. A *sense of chilliness* was experienced at 10½ A.M., which lasted a quarter of an hour, and was immediately followed by profuse sweating. Up to the 28th day the perspiration was continual, and the discharge from the wounds undiminished; the countenance became pale and anxious; the granulations lost their florid colour, and were covered by a whitish slough; the exposed portion of the ulna assumed a dark-brown colour, and the hæmorrhage did not recur.

On the 29th day, after a good night, he expressed himself as feeling better than he had done since his admission. The face was again coloured; pulse full, about 100; the discharge continued profuse, more fœtid, and was mixed with *numerous bubbles of air*. No return of chill or hæmorrhage. No oppression of chest or cough. Bowels free. (Wine; soups.) His general health and strength for the two following days improved rapidly. On the 31st day he complained only of slight pain in the epigastrium, and a *great desire to cough*, to which he was afraid to yield. At half past one *he was seized with a severe pain in the left side*, and at 4, A.M., yielding to the desire to cough, he expectorated a single *well marked pneumonic sputa*. Examined by Dr. Gerhard, he presented obscurity on percussion on the left side of the back as high up as the scapula. Egophony over the same space, and a subcrepitant rhoncus at the base of both lungs posteriorly.

From this period the pain in the side diminished, and finally disappeared. The pain in the epigastrium continued, but no longer prevented the cough, which was accompanied always by the pathognomonic sputa of pneumonia. The pulse became more feeble, ranging from 115 to 120; the strength declined. On the 33d day he expectorated a moderate quantity of viscid, rust-coloured matter, in the midst of which was found a single, tolerably large mass of a greenish yellow colour, similar to partially concrete pus, *and perfectly resembling the matter found in metastatic abscesses of the lungs when they begin to soften*. The discharge from the wounds continued unabated. (Elixir vitriol; bitter tea; port wine; emolient enemeta.)

The general health improved, although the cough and expectoration of pneumonic sputa, mixed with concrete pus, continued up to the 36th day, when he was seized at noon with a *sudden and very*

violent chill, with chattering of the teeth, which lasted twenty minutes, and was followed immediately by profuse sweat, which continued almost without intermission for some days; the expectoration gradually lost its pneumonic character, and *resembled more and more the matter found in metastatic abscesses when perfectly softened.* The prostration increased. Port wine, beef tea, and eggs were taken without relish, but without disgust; the suppuration continued undiminished. Milk punch and elixir of vitriol were administered, with a slight increase of strength. On the 42d day the expectoration *became slightly fœtid;* and on the 43d day, in the evening, there was a sudden aggravation of all the symptoms; great dyspnœa; cough in paroxysms; the expectoration became very difficult, was still purulent, but of a *darker colour,* and *exhaled a well marked gangrenous odour.* This was accompanied by a full and quick pulse; a hot and moist skin; delirium and subsultus tendinum. On the following day the prostration increased; *patches of gangrenous matter* were found in the sputa. Musk, and milk punch were freely administered, and towards evening he became calm.

On the 45th day the countenance was improved, but the intellect was confused. A low muttering delirium supervened. The cough was rather harassing; expectoration moderate, fluid, purulent, having the odour of musk; suppuration very profuse.

On the 46th day the countenance became altered; the eyes dim; skin warm and moist; pulse fluttering, about 140; dyspnœa; cough frequent and harassing; expectoration difficult, small in quantity, purulent, exhaling only the odour of musk. During the day the prostration increased, and death occurred at 1 P. M.

Autopsy, twenty hours after death.

External Appearances.—Emaciation; no rigidity of limbs; cranium not opened.

Thorax.—Old strong pleuritic adhesions on both sides; recent adhesions, with purulent false membrane between the pleura and diaphragm on left side; effusion of a tolerable quantity of serum into the cavities.

Right Lung.—Slight interlobular emphysema; tissue generally pale and crepitant. At the base of the lung, immediately above the pleura, exists an abscess of the size of a hen's egg, or rather larger, very infractuous, surrounded completely by false membrane, and enclosing a moderately sized dark brown slough, and filled with the same purulent matter which had been expectorated during life. Several of the larger bronchial tubes opened directly into this abscess, one of which was sensibly dilated. The bronchial mucous membrane was cut off abruptly at the opening, and throughout the rest of the tube was red and slightly thickened. The tissue surrounding this abscess was, for about a line, red and indurated, but still contained air; and immediately around this induration the tissue was slightly engorged; elsewhere it was perfectly crepitant, and in no part completely hepatised.

The left lung presented a perfectly similar alteration, both in size and situation; the slough contained was, however, perfectly black, and emitted a gangrenous odour, notwithstanding the strong smell of musk exhaled by the whole body. The slough adhered in some parts to the false membrane bounding the abscess, and in these points presented a brownish red colour. The pus contained was of the same nature as in the opposite side; but the bronchial tubes opening into it more obliquely were not sensibly dilated, but were thickened and reddened throughout the lung. The parenchyma surrounding this abscess presented the same characters as in the opposite lung, and in the indurated tissue immediately above the abscess was found another smaller cavity, about the size of a bean, perfectly isolated, surrounded by a thin false membrane, and containing a blackish fluid. The rest of the lung was healthy, with the exception of a slight interlobular emphysema.

The Pericardium contained about a pint of serum.

The Heart large, pale, flabby; tissue softened, permitting the fingers to penetrate it with tolerable facility. No coagula in any of the cavities, but a small quantity of red and very watery blood. The semilunar valves, and the adjoining portions of the aorta and of the lining membrane of the heart, were covered by a thin transparent membrane, not thicker than gold beater's leaf, which could be detached with moderate ease by scraping.

The lining membrane beneath this was moderately injected, except over one of the semilunar valves, where it was of a vivid red, and in this spot the apparently false membrane covering it was thick, opaque, and adhered so strongly that it could with difficulty be torn off.

Stomach large; mucous membrane pale and consistent.

Liver pale and firm; examined by fine slices.

Spleen of natural size and firmness, of a reddish gray colour generally; but presenting at its point externally a patch about the size of half a dollar, of a bluish tint, which does not extend into the parenchyma.

Kidneys perfectly healthy.

Veins of the right arm perfectly sound, lining membrane pale and firm; large vessels of thorax healthy, except aorta near the heart.

BIBLIOGRAPHICAL NOTICES.

A Physiological and Pathological Inquiry concerning the physical characteristics of the teeth and gums, the salivary calculus, the lips and tongue, and the fluids of the mouth, together with their respective local and constitutional indications. As read before the American Academy of Dental Surgeons, at their Second Annual Meeting, held at Philadelphia, August 11, 1841. By Chapin A. Harris, M. D., D. D. S., Professor of Practical Dentistry in the Baltimore College of Dental Surgery, &c. &c.; Baltimore; Armstrong & Berry, 1841. pp. 119, 8vo.

The whirl of occupation attendant on the winter session of our col-

legiate and clinical schools permits only a hasty glance at the contents of this little volume, bearing, as it does, on a speciality, conventionally, though improperly separated from the routine of medical instruction in this country. There is much information in the work calculated to assist the student of surgery in prosecuting researches into the history of this department of his profession. We have no doubt that many valuable facts and still more valuable suggestions might be gleaned from its careful perusal, notwithstanding the existence of certain obvious physiological errors, and even discrepancies in its pages, due, it may be, rather to the condition of the science than to neglect on the part of the writer. The subject is as obscure as it is important, and we are happy to witness every attempt to transfer it from the dominion of empiricism to that of philosophy.

The volume is beautifully "gotten up," and, in this respect, is creditable alike to the author and publishers. We recommend it to the careful perusal of those in our profession who are fitted by proper theoretical study and practical experience to weigh its positions justly and critically. It is the production of one well versed in the opinions of others, and who has enjoyed ample opportunities of testing them.

American Journal of Medical Sciences. Jan. 1842.

In the American Journal for January, 1842, we find the following articles which may be termed strictly medical.

1. *Notes on the Scurvy, as it appeared on board the U. S. Frigate Columbia, in her cruize around the World,*—1838–'39–'40. By Edward Coale, M. D., U. S. Navy. 2. *On Scorbutus, which prevailed in the United States Army at Council Bluffs and St. Peters.* By Samuel Forry, M. D., of New York. 3. *Observations on the Rapidity of the Pulse of the Insane.* By Pliny Earle, M. D. 4. *Case of Yellow Fever, with Remarks.* By Thomas Stewardson, M. D., one of the Physicians to the Pennsylvania Hospital. 5. *Case of Tetanus, following a retained Placenta.* By D. Humphrey Storer, M. D., of Boston, Mass. 6. *On the Euphorbia Maculata.* By William Zollickoffer, M. D. 7. *Observations on Dysentery, and on the use of Astringents.* By Stepehn W. Williams, M. D. 8. *Catalepsy induced by Animal Magnetism.* By Blanchard Fosgate, M. D., of Auburn, New York.

In accordance with the plan which we have laid down for our fu-

ture guidance, we shall notice each of these articles—some of them very briefly; while from those which offer facts that we believe will be interesting to our readers, we shall extract such parts as embrace the substance of all that is novel or interesting. We shall pursue the same method with the most important foreign journals, and thus place our readers in possession of interesting matter, which would otherwise cost them much trouble and expense.

Case of Yellow Fever, with Remarks. By THOMAS STEWARDSON, M. D., one of the Physicians to the Pensylvania Hospital.

This article, by Dr. Stewardson, contains a dissection of the body of a seaman, dead of yellow fever, who was taken ill on the 16th of September at sea, twenty-one days after leaving New Orleans. He entered the hospital on the 25th of September, and died on the evening of the 27th. When admitted he was jaundiced, but in so enfeebled a condition that he was unable to answer questions intelligibly, and was in that stage of acute disease in which the symptoms become indistinct. On examination, the viscera of the head and thorax offered nothing remarkable.

"*Abdomen.—Liver* of moderate size, not enlarged, of good firmness, the lower surface of both lobes of a bluish gray colour, the upper surface of a uniform dull mustard colour, or perhaps more nearly resembling that of powdered gamboge; the colour internally was *every where uniformly* the same as that of the upper surface; the surface of a section was smooth, and very dry, except where moistened by the blood from the veins, which was watery and pale; of a homogeneous appearance, with scarcely any trace of distinction between the acini and parenchyma; it was not greasy. The *gall bladder*, contracted and pale, contained about ʒij. of viscid, brownish bile. *Spleen* about 4 inches long by 2½ wide, of its usual bluish colour externally; firm in mass; internally of a deep claret colour; a section looking granulated, owing to the white lines of the cut cells of the organ; its cohesion very marked, the finger penetrating it with difficulty. *Stomach* of medium size, containing from one to two ounces of a fluid rather more consistent than water, of a bluish black colour, with which the whole surface of the mucous membrane was more or less stained, being least so along the small curvature; besides this, in the great *cul-de-sac* the membrane was marked with a dull, red injection, in points; surface generally smooth, mamelonated along the middle of the great curvature on the anterior face of the organ; consistence of mucous coat slight in the great *cul-de-sac*, where it was also thin; elsewhere, rather thinner than usual, and a little softened. In the great *cul-de-sac* at the seat of the red injection, there were several superficial depressions, probably ulcerations, from half a line

to a line in diameter. The mucous follicles about pylorus not notably enlarged."

The duodenum contained a portion of fluid similar to that contained in the stomach, but was in other respects healthy. In the upper part was a considerable injection of red points, like that of the stomach. Follicles of small intestine healthy. In the large intestine the orifices of the follicles were enlarged; and in the lower part the mucous coat was softened.

The following remarks by Dr. Stewardson, relative to the lesions observed in this case, and bilious remitting fever, are interesting. We hope, however, that our southern friends will illustrate the pathology of yellow fever under more favourable circumstances.

"*Remarks.* We are unfortunately but imperfectly acquainted with the symptoms under which the patient laboured during the greater part of the course of the disease, as he entered the hospital almost moribund. His attack appears to have commenced about three weeks after leaving New Orleans, where the yellow fever has prevailed to a great extent during the past season, and ten days before his admission into the hospital. Being practically unacquainted with the features of yellow fever, I hesitated as regards the character of the disease, which as well as that of the patient who had died on the passage, was considered by the mate as undoubted yellow fever. The expression of countenance seemed to be different from any I had ever before witnessed; the eye remarkably wild when the patient was much roused; there was an appearance of great distress, restlessness and epigastric tenderness, whilst at the same time neither this region nor the hypochondria were distended. After death the appearances observed were precisely those described by M. Louis, as characterising the yellow fever of Gibraltar. The liver was of the colour of gamboge, remarkably dry and anemic; scarcely any bile in the gall-bladder; the stomach evidently inflamed and containing a black fluid which was also found in the intestinal canal; the spleen nearly natural; the rest of the contents of the abdomen as well as the other organs presenting nothing remarkable excepting the yellow tinge of the aorta, &c. The lesion of the liver was very peculiar and striking, answering precisely to M. Louis's description of that observed at Gibraltar. The colour in the present instance was almost exactly that of powdered gamboge, with which a section of it made after it had macerated for a day or two, was compared in the presence of the class. Besides the alteration of colour, it should be recollected that the liver was very dry and anemic, and that scarcely any bile was found in the gall-bladder, so that the secretion of this fluid would seem to have been almost arrested. The inflammation of the stomach was far from being severe, and the amount of black matter contained in it and the intestinal canal was not great, entirely insufficient certainly to account for the fatal termination, which can

only be explained by admitting some change, probably of the blood, inappreciable by the ordinary methods of investigation, but sufficient to compromise the functions of important organs. It is possible indeed that this change, supposing it to be one of the blood, may have been a consequence of the lesion of the liver, as recent investigation seems strongly to confirm the idea, that a principal function of this organ is, like that of the lungs, to purify the blood and thus render it more fit for the support of the vital action. Still, however, even on this supposition, the alteration of the circulating fluid must be considered as the immediate cause of death.

In conclusion let us note the similarities and discrepancies which exist between the post mortem appearances, observed by M. Louis in yellow fever, and those observed by me in remittent fever, and described in the April number of this journal for the past year. In both, the organs contained in the cavities of the chest and cranium were found either entirely healthy or the seat only of such secondary changes as are common to many acute affections, if we except the frequent occurrence in yellow fever of certain blackish spots or masses in the lungs, dependent in great measure upon the exhalation of blood into their tissue, and also the frequent destruction of the epidermis of the œsophagus in the same disease. In both, the liver was in every case the seat of a peculiar alteration, having certain common characters, but strikingly different in the two diseases. In both, the stomach was in the great majority of cases inflamed, whilst the remainder of the intestinal canal, the mesenteric glands and kidneys were healthy, or nearly so. On the other hand we find no less striking differences. Thus in yellow fever, the liver without much alteration of size or consistence, was yellow, anemic, with but little bile in the gall-bladder, whilst in remittent it was generally enlarged and flabby, and always of a dark colour more or less resembling bronze, with a gall-bladder for the most part fully distended. In yellow fever the stomach or some part of the intestinal canal mostly contained a fluid black matter which was absent in remittent. The spleen in yellow fever was healthy or nearly so, whilst in remittent it was the seat of extreme softening and enlargement. A consideration of these three points of difference seems to me to be of the last importance in determining the question of whether yellow and bilious remitting fevers are distinct diseases. That they are so is now perhaps the most generally received opinion, derived from a comparison not merely of the difference of symptoms but of the circumstances of their origin and prevalence, and if to these we add the differences in the post mortem appearances above mentioned, scarcely a doubt, I think, can be entertained but that this opinion is correct. The enlargement and softening of the spleen in the bilious remitting and other types of fever originating from marsh miasmata, is a prominent fact attested by most writers who have investigated the pathological appearances of disease in warm climates; and this fact alone is almost sufficient to convince us that yellow fever, in which the spleen rarely presents any considerable traces of disease, must be essentially distinct in its nature

and origin. The very opposite conditions of the liver and of the biliary secretion are worthy of especial attention, in reference to the present question, especially as the increase of this secretion in the one disease, and its diminution in the other, are severally characteristic of them throughout their whole course, as shown by an appeal to symptoms. To these, however, I will not allude further at present, as I shall shortly have occasion to recur to them in the continuation of my observations upon remittent fever."

THE MEDICAL EXAMINER.

PHILADELPHIA, JANUARY 22, 1842.

Dr. H. L. Byard, of Salem, Sumpter district, South Carolina, has furnished us with a sketch of the prevailing form of fever met with in his practice; it appears that it was remittent, with more than the usual complications of gastritis. Whether this form prevailed throughout the Southern States, or was limited to a particular district of South Carolina, we do not know. The epidemic tendency of the season appears to have been rather of the congestive than inflammatory type.

PROCEEDINGS OF SOCIETIES.

Academy of Natural Sciences.

Session of November 16th. Vice President Morton in the Chair.

Pigmy race of the Valley of the Mississippi.

Dr. Morton made some remarks on the so called *Pigmy race* of people who are asserted to have formerly inhabited a part of the Valley of the Mississippi.

It has long been contended by intelligent persons, who, however, were ignorant of anatomy, that the adjusted bones of individuals of this race, never exceeded four feet and a half in height, and are often but three feet. These statements induced Dr. Morton to investigate the subject by means of a skeleton of one of these people, which he at length obtained through the kindness of Dr. Troost of Nashville; Mr. A. M'Call, a correspondent of Dr. Troost, having exhumed these remains from a cemetry near the Cumberland Mountain, in White county, Tennessee.

"The coffins," observes Mr. M'Call, in the letter read by Dr. Morton, "are from 18 to 24 inches in length, by 18 inches deep and 15 wide. They are made of six pieces of undressed sandstone or limestone, in which the bodies are placed with their shoulders and

head elevated against the eastern end, and the knees raised towards the face, so as to put the corpse in a reclined or sitting posture. The right arm rested on an earthen pot, of about two pints in capacity, without legs, but with lateral projections for being lifted. With these pots, in some graves, are found basins and trays also of pipe clay and comminuted shells mixed; and no one of these repositories is without cooking utensils. In one of the graves was found a complete skull, and an os femoris, but most of the other bones were broken in hastily removing them. This is said to be the largest skeleton ever found at any of these burying grounds. It has the cranium very flat and broad, with very projecting front teeth, and appears to have pertained to an individual not over twelve or fourteen years of age."

After reading Mr. M'Call's letter, Dr. Morton exhibited the bones which accompanied it, and remarked that the stage of developement of the teeth, indicated a very juvenile subject. For example, many of the deciduous or first teeth yet remained in the jaws; while the only teeth of the permanent set which had protruded, were the first molars and the incisors, which, as every anatomist knows, make their appearance at about seven years of age. Of the other permanent teeth, some had no part formed but the crown, and all were completely embraced within the maxillary bones. The presence of the new incisors, isolated from the cuspidati which had not appeared, obviously gave rise to Mr. M'Call's remark respecting the very "projecting front reeth," but which, however, are perfectly natural in position and proportion. The cranial bones are thin, and readily separable at the sutures; nor does the *flat and broad* configuration of the cranium differ from what is common to the aboriginal American race. The long bones have their extremsties separated by ephiphyses; and every fact observed in these remains is strictly characteristic of early childhood; or about the seventh year of life. Even the recumbent or sitting posture in which they are found, has been observed in the dead bodies of the American nations from Cape Horn to Canada; and the utensils found with them, are the same in form and composition with those exhumed from the graves of the common Indians.

Dr. Morton concluded by remarking that these remains were to him an additional and convincing proof of what he had never doubted —viz. that the so called Pigmies of the western country, were merely children, who, for reasons not readily explained, but which actuate some religious communities of our own time, were buried apart from the adult people of their tribe.

FOREIGN.

Influence of the Venereal Disease and sexual gratification upon the union of Fractures.—The New York Medical Gazette, Vol. II.

page 13, quotes from a paper by M. Thierry, published in L'Experience, Nov. 4, 1841, the following cases:

Case 1. M., aged 13, clerk in a wine store, fractured both bones of the fore-arm in descending into the vaults. The apparatus of Boyer was applied, and at the end of sixty days removed, the union being supposed to be perfect. On examination the consolidation was not complete, yet this young man enjoyed good health, and there was nothing to explain why the fracture did not unite. The patient was closely watched, and it was soon discovered that the girl who nursed him afforded him from time to time a physical solace for his ennui; she was discharged, the apparatus reapplied for sixty days, and the consolidation was complete.

Case 2. A school-boy of 14 had the arm broken by the fall of a bench. The displacement was inconsiderable, the fracture was reduced and put in the old apparatus; on removing the dressings the bone had not united. The boy was watched, and it was discovered that he was addicted to masturbation. The apparatus was reapplied, and means taken to prevent his recurring to his old habit. The cure was complete.

Case 3. M. D., making a false step in the street, fell and fractured the thigh above the great trochanter. The fracture was reduced and the apparatus of Boyer applied. At the end of sixty days, on removing the apparatus, the bone had not united. The patient was asked whether he had not some venereal affection;* on his replying in the affirmative an anti-venereal course was pursued, the apparatus was reapplied, and in twenty-four days the fracture was consolidated.

There is nothing novel in the assertion that the existence of venereal disease retards the union of fractures, though the fact has been frequently disputed; but that sexual indulgence should have the same effect is singular, unless the indulgence be carried to a greater excess than would be probable in those laboring under such injuries. The effects in all the cases are no doubt due to the same cause—the general debility induced by the disease, or the indulgence. That the venereal disease, when not directly involving the periosteum, exerts any specific influence upon a fracture, is extremely improbable;—that it does not always do so is proved by an abundance of testimony, to which, if necessary, we might add some personal observations; but the subject will claim further attention in a future number, when we notice a recent elaborate paper on the occurrence of non-union after fracture, by Dr. Norris.

*M. F. does not tell us whether this was a primary or secondary affection; probably the latter, as he speaks generally of syphilis diminishing the resistance of the bones and preventing their union.

Origin of Ergot.—In the Medical Gazette for 1838--9, Edwin Quekett, F.L.S., advanced the doctrine that the formation of Ergot was caused by the introduction of the sporules of a peculiar fungus into the circulation of the affected grain, and their final deposition in the seed, where they found materials and stimuli to induce their developement. In the number of the same journal for October 8, 1841, the following experiments, tending to prove the truth of the doctrine, are narrated.

Twelve healthy grains of rye, of wheat and of barley, (all grown in the neighbouring fields in Surrey,) were selected, and placed in a plate which contained a little water; some ergots of wheat were then immersed in the water of the plate, and with a camel's hair pencil brush the sporidia of the fungus adhering to the exterior were detached in numbers, as the microscope proved, and the ergots were then removed.

A similar experiment was performed with the same number and variety of grains, but with the fungus obtained from the exterior of an ergot of a large grass—*elymus sabulosus:* a glass shade covered each set of grains so prepared.

In a few days germination commenced, and was allowed to progress until the grains were beginning to appear wrinkled, from the appropriation of the albumen; and by this time those that had perfectly germinated possessed green leaves from two to three inches in length. In this state the whole of the young plants were taken into the country, and planted close together in the third week of March last.

The greater number of grains, of both experiments, failed in becoming perfect plants, so that, at the present time, when they are matured, there are but four of rye, (one infested with the fungus from the elymus, and three from wheat,) three of barley, and four of wheat. On every plant of the rye there are some ears possessing ergots (nine having been obtained from the four plants,) some containing one specimen, others as many as six; but in the barley is only one imperfect ergot, and in the wheat not any have been detected.

It was remarked that, in the rye, there was only one ear that possessed a few healthy grains and no ergot; in the others, some had ergots without any healthy grains, and the rest possessed neither ergot nor grains of any kind; showing how the fungus probably influences the formation of healthy grains in this plant, whereas, in the wheat and barley, the sound condition did not appear to have been departed from.

If the cause of the ergots, in this instance, had an external origin, it is singular that, as the plants grow intermixed, and in a very small space, the barley and the wheat should have escaped under the circumstances; but the reason, I imagine, that the latter two possessed no ergots, though treated as the rye, is that they are not so susceptible of the infection; for it is well known that the rye is particularly

liable to this disease—more so, perhaps, than any other grass; and that it becomes so, arises either from constitutional properties or its anatomical peculiarities.

I conceive, from these experiments, that the production of ergot from the absorption of the sporules of the previously described fungus, by the fibres of the root of the germinating grains, will be found to be the truc cause of this singular production; and that, when they arrive at the grain, they convert it into the body known as the ergot; for it appears to me too much to admit, in these experiments, that the many ergots on every plant could be the result of accidental circumstances, when it is well known that their presence is very rare in this country on the same grass.

Cases of Dislocation of the Clavicle backwards behind the Sternum. By M. Morel.—Case I. Lemoine, 17 years of age, was overtaken in a narrow street by a carriage, and had his right shoulder violently squeezed against the wall, in a direction forwards and inwards. He experienced at the time some pain at the bottom of the neck, and a great sensation of suffocation which lasted for more than a quarter of an hour. The dyspnœa gradually subsided, but the motion of the right arm not returning, he, on the eighth day after the accident, entered the *Charité*, when he was found in the following state:—The two shoulders were on the same level, but the right one was nearer the mesial line. The internal extremity of the clavicle was half concealed behind the sternum, and its upper part consequently formed a projection above the bone. When the shoulder was carried backwards, the tumour became more prominent forwards. On depressing the shoulder, it rose, and disengaged itself from behind the sternum, and by carrying the shoulder upwards, outwards, and backwards, the bone returned to its natural position; the hand could be carried to the head, by directing the elbow backwards, but if it was brought forwards, the attempt caused great pain. Desault's bandage was applied; but, as it slipped, it was replaced by that of Velpeau, which kept the bone completely in position. The patient was lost sight of on the 18th day, as he was obliged to be removed to another ward on account of the appearance of small-pox.

Case II.—Lamotte, 28 years of age, was shoeing a horse, when the animal made violent efforts to free his leg; endeavouring to restrain them, he fell, and met with a dislocation of his clavicle backwards. The next day he was in the following state:—The right shoulder was nearer by sixteen lines, than usual, to the mesial line; there was slight swelling of the external jugular vein; some pain was felt, but more towards the middle than the extremity of the clavicle, the external head of which had disappeared behind the sternum, where it was impossible to feel it. When the hand was carried to the head, there was pain if the elbow was moved forwards, but none if it was directed backwards. Two attempts at reduction made, the one by carrying the shoulder outwards and backwards, the other by acting on the arm in the same direction, were unsuccessful.

M. Lenoir made the patient be seated on a low chair; he then placed a sheet round his body, and fastened it to an iron bar. Two assistants pulled the arm and shoulder outwards and backwards, (almost horizontally in fact,) while another kept the wrist lowered, and at the same time turned towards the left side. M. Lenoir then placed his knee between the shoulders, and with one hand pulled the right one backwards, while with the other he traced the clavicle. Reduction was accomplished, and the bone retained in its place by the shoulders being kept back by a bandage applied in the form of the figure 8. Another bandage was placed round the body, and kept the elbow close to the side. On the twelfth day this was removed, and a sling had recourse to. On the eighteenth day he was doing well. The reduction was so complete, that the extremity of the dislocated clavicle was more prominent than that of the other.

The first case put on record of this kind of dislocation, caused by violence, was published by M. Pellieux, in 1834, in the Revue Médicale. Since then, other two cases have been reported in the Gazette Médicale for 1836—'37. Besides the two we have given above, a third is quoted by the Gazette Médicale, from M. Morel's pamphlet; but we have not given it, as it appears to us not to be a case of dislocation backwards. In Sir A. Cooper's Lectures on Surgery, a case is mentioned which was produced by deformity of the spine. The scapula was pushed forward, so that sufficient room was not left for the clavicle between that bone and the sternum, and its internal head gradually slipped behind the latter, pressing upon the œsophagus, and giving rise to great difficulty of swallowing. In this case, as reduction was impossible, the clavicle was sawn through, about an inch from the sternum, and dissected out. The operation was done by Mr. Davis, late of Bungay, in Suffolk. From the cases published, M. Morel says, that there are two kinds of this dislocation, viz. backwards and downwards, and backwards and upwards, as when a part of the inner head of the clavicle is above the level of the sternum.—We can suppose that the latter species is consecutive, and produced by the action of the sterno-mastoid muscle, and by the weight of the superior extremity. The dislocation downwards is much more difficult than the other to reduce, and when reduction is effected, the bones are not so easily retained in their place.—*L. and E. Monthly Journ. Med. Sci.*, Oct. 1841, from *Gazette Medicale*, 21st August 1841.

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